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TITLE: Receptor specific transepithelial transport of therapeutics

Brief Summary Text (6):

Rats and mice receive most maternal immunoglobulin G (IgG) by suckling from colostrum and milk, although some is acquired prenatally. Cattle also receive IgG from colostrum. In rabbits, IgG is transported to the fetus across the yolk sac. Little is known about the transfer of IgG to the fetus or neonate in humans. Most evidence suggests that human mothers transfer humoral immunity to an offspring only before birth, although IgA transferred to a neonate via breast milk is believed to play a role in protecting the neonate against enteric infection.

Detailed Description Text (30):

Antigens that are characteristic of tumor antigens typically will be derived from the cell surface, cytoplasm, nucleus, organelles and the like of cells of tumor tissue. Examples include antigens characteristic of tumor proteins, including proteins encoded by mutated oncogenes; viral proteins associated with tumors; and tumor mucins and glycolipids. Tumors include, but are not limited to, those from the following sites of cancer and types of cancer: lip, nasopharynx, pharynx and oral cavity, esophagus, stomach, colon, rectum, liver, gall bladder, binary tree, pancreas, larynx, lung and bronchus, melanoma of skin, breast, cervix, uteri, uterus, ovary, bladder, kidney, brain and other parts of the nervous system, thyroid, prostate, testes, Hodgkin's disease, non-Hodgkin's lymphoma, multiple myeloma and leukemia. Viral proteins associated with tumors would be those from the classes of viruses noted above. Antigens characteristic of tumors may be proteins not usually expressed by a tumor precursor cell, or may be a protein which is normally expressed in a tumor precursor cell, but having a mutation characteristic of a tumor. An antigen characteristic of a tumor may be a mutant variant of the normal protein-having an altered activity or subcellular distribution. Mutations of genes giving rise to tumor antigens, in addition to those specified above, may be in the coding region, 5' or 3' noncoding regions, or introns of a gene, and may be the result of point mutations frameshifts, deletions, additions, duplications, chromosomal rearrangements and the like. One of ordinary skill in the art is familiar with the broad variety of alterations to normal gene structure and expression which gives rise to tumor antigens. Specific examples of tumor antigens include: proteins such as Ig-idiotypic of B cell lymphoma, mutant cyclin-dependent kinase 4 of melanoma, Pmel-17 (gp 100) of melanoma, MART-1 (Melan-A) of melanoma, p15 protein of melanoma, tyrosinase of melanoma, MAGE 1, 2 and 3 of melanoma, thyroid medullary, small cell lung cancer, colon and/or bronchial squamous cell cancer, BAGE of bladder, melanoma, breast, and squamous-cell carcinoma, gp75 of melanoma, oncofetal antigen of melanoma; carbohydrate/lipids such as mucin mucin of breast, pancreas, and ovarian cancer, GM2 and GD2 gangliosides of melanoma; oncogenes such as mutant p53 of carcinoma, mutant ras of colon cancer and HER2neu proto-onco-gene of breast carcinoma; viral products such as human papilloma virus proteins of squamous cell cancers of cervix and esophagus. It is also contemplated that proteinaceous tumor antigens may be presented by HLA molecules as specific peptides derived from the whole protein. Metabolic processing of proteins to yield antigenic peptides is well known in the art; for example see U.S. Pat. No. 5,342,774 (Boon et al.). The present method thus encompasses delivery of antigenic peptides and such peptides in a larger polypeptide or whole protein which give rise to antigenic peptides. Delivery of antigenic peptides or proteins may give rise to humoral or cellular immunity.

Detailed Description Text (70):

Specific examples of known therapeutics which may be delivered via a FcRn binding partner include, but are not limited to: (a) Capoten, Monopril, Pravachol, Avapro, Plavix, Cefzil, Duricef/Ultracel, Azactam, Videx, Zerit, Maxipime, VePesid, Paraplatin, Platinol, Taxol, UFT, Buspar, Serzone, Stadol NS, Estrace, Glucophage (Bristol-Myers Squibb); (b) Ceclor, Lorabid, Dynabac, Prozac, Darvon, Permax, Zyprexa, Humalog, Axid, Gemzar, Evista (Eli Lilly); (c) Vasotec/Vaseretic, Mevacor, Zocor, Prinivil/Prinizide, Plendil, Cozaar/Hyzaar, Pepcid, Prilosec, Primaxin, Noroxin, Recombivax HB, Varivax, Timoptic/XE, Trusopt, Proscar, Fosamax, Sinemet, Crixivan, Propecia, Vioxx, Singulair, Maxalt, Ivermectin (Merck & Co.); (d) Diflucan, Unasyn, Sulperazon, Zithromax, Trovan, Procardia XL, Cardura, Norvasc, Dofetilide, Feldene, Zolof, Zeldox, Glucotrol XL, Zyrtec, Eletriptan, Viagra, Droloxifene, Aricept, Lipitor (Pfizer); (e) Vantin, Rescriptor, Vistide, Genotropin, Micronase/Glyn./Glyb., Fragmin, Total Medrol, Xanax/alprazolam, Sermion, Halcion/triazolam, Freedox, Dostinex, Edronax, Mirapex, Pharmorubicin, Adriamycin, Camptosar, Remisar, Depo-Provera, Caverject, Detrusitol, Estrin, Healon, Xalatan, Rogaine (Pharmacia & Upjohn); (f) Lopid, Accrupil, Dilantin, Cognex, Neurontin, Loestrin, Dilzem, Fempatch, Estrostep, Rezulin, Lipitor, Omnicef, FemHRT, Suramin, Clinafloxacin (Warner Lambert).